ENTRY MODE AND EMERGING MARKET MNES: AN ANALYSIS OF CHINESE GREENFIELD AND ACQUISITION FDI IN THE UNITED STATES

John Anderson[a,*], Dylan Sutherland[b,1]
[a] College of Business Administration, University of Northern Iowa, Cedar Falls, United States
[b] Durham University Business School, Durham University, Durham, United Kingdom

ABSTRACT

A growing theoretical literature on emerging market MNEs argues they use aggressive acquisitions, often to psychically distant, developed host countries, to obtain the strategic assets that they themselves lack. The use of *acquisitions* as the dominant entry mode for strategic asset seeking, therefore stands at heart of current EM MNE theorizing. To date, however, systematic empirical testing of the motivations for different entry modes by EM MNEs is limited. In this paper we address this gap by exploring the motivations for greenfield and acquisitions. For important methodological reasons we draw our sample from a single host (the United States) and source country (China). Our results are broadly supportive of the growing theoretical literature on EM MNEs, arguing acquisitions are the primary mode of strategic asset seeking in developed markets.

Keywords: China, Outward FDI, Location Choice, Emerging Market, Acquisition, Greenfield

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* Corresponding author. Tel. 319.883.6417. E-mail address: john.r.anderson@uni.edu
[1] E-mail address: dylan.sutherland@durham.ac.uk

1. INTRODUCTION

Understanding the internationalization strategies of emerging market (EM) MNEs has become a major focus area in international business (IB) research (Deng, 2012; Ramasamy et al., 2012). This interest stems largely from the argument that standard conceptual models of the MNE may not be applicable to EM MNEs (Buckley et al., 2008; Chen & Tan, 2012; Luo & Tung, 2007; Rui & Yip, 2008; Yiu et al., 2007). A key bone of contention regards the question of whether asset *augmenting* strategies, as opposed to *exploitation* strategies, are common in EM MNEs (Buckley et al., 2007; Cuervo-Cazurra, 2012; Deng, 2012; Hennart, 2012; Wang et al., 2012; Yiu et al., 2007). The idea that EM MNEs have an asset augmentation approach to FDI, involving strategic asset seeking (SAS) behavior, has gained considerable traction within EM MNE specific theories (Deng, 2012; Luo & Rui, 2009; Luo & Tung, 2007; Wei, 2010). Many now argue that MNEs from countries such as China do in fact 'deviate from the predictions of existing theories' (Cui & Jiang, 2012, p. 266). EM MNEs, in particular, have been identified as being strongly driven by aggressive acquisitions, predominantly in developed markets, in their pursuit of strategic assets (Kedia et al. 2012; Luo & Tung, 2007; Sun et al., 2012).

This study contributes to earlier research on EM MNEs by looking specifically at the motivations for the use of different entry mode by EM MNEs, focusing particularly on those between greenfield and acquisition foreign establishment mode. As single home and single host country studies are most suited for exploring firm-level entry mode motivations (i.e. greenfield versus acquisition) (Slangen & Hennart, 2007), we focus exclusively on FDI from a single large emerging market, China, to a single large developed market, the United States. Our findings, while not necessarily surprising, do indeed show systematic differences in SAS behavior as disaggregated by entry mode, ownership and period of observation. Chinese

MNEs, particularly private ones, do use aggressive acquisitions rather than greenfield FDI to rapidly acquire strategic assets in the US. Our results are therefore somewhat supportive of the widely expressed view that EM MNEs specifically use acquisitions to rapidly acquire the strategic assets that they themselves lack (Luo and Tung, 2007; Deng, 2009; Hennart, 2012), which in turn has been used to question whether the OLI model is suitable for explaining EM MNE' expansion (Child and Rodrigues, 2005; Luo and Tung, 2007).

We first review relevant literature, from which we formulate hypotheses. The data and empirical models are then explained and our results reported. This is followed by discussion of theoretical and managerial implications.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. Strategic asset-seeking and entry mode

In a recent critical review of the literature on foreign establishment and entry mode it was noted that the 'choice of foreign entry mode is one of the core topics in international management research' (Slangen and Hennart, 2007, p. 404). To date, the majority of such studies have focused on the decision to undertake joint ventures or wholly owned operations (Brouthers and Hennart, 2007). Those on the choice between greenfield and acquisition entry mode, however, are also not uncommon. Hennart & Slangen (2007), for example, recently identified 23 empirical studies exploring the determinants of the choice between greenfield and acquisition entry mode. None of these 23 studies, however, involved what could be considered emerging market economies. Instead, for example, they looked at the likes of Swedish, Finnish, British and Dutch MNEs. To date, therefore, the empirical study of the motivations for greenfield or acquisition entry modes for EM MNEs has still received limited

attention.[2] This is of interest, however, because at a conceptual level quite strong predictions have been made about the use of specific entry modes by EM MNEs. As 'latecomers' requiring aggressive 'springboard' strategies to rapidly catch-up, it is often argued EM MNEs use acquisitions to psychically distant developed markets to acquire the 'strategic assets' they themselves lack (Child and Rodrigues, 2005; Luo and Tung, 2007; Deng, 2009; Matthews 2002, 2006). Strategic asset-seeking therefore involves augmenting areas of perceived competitive *disadvantage* through the acquisition of a variety of intangible and other assets, such as brand names, technologies or managerial competency (Mathews, 2006; Dunning, 2009; Sun et al., 2012). These OFDI strategies, moreover, are often thought to be different to those found advanced market MNEs, which are considered to rely more upon exploiting existing ownership advantages (Luo & Tung, 2007, p. 485). EM MNEs, which are thought in many cases to lack such capabilities (Luo and Tung, 2007; Rui and Yip, 2008), are also prepared to make high risk investments to markets typified by large psychic distances (i.e. developed markets). They are thought to do so, moreover, very rapidly (i.e. predominantly via acquisition) (Yiu et al., 2007; Luo and Tung, 2007; Matthews, 2006). Such strategies, it is believed, are distinct from incremental process models of internationalization (c.f. Johanson & Vahlne, 1977; Johanson and Vahlne, 2009), in so far as they consider the accelerated pace of internationalization as a central component (Luo & Tung, 2007, p. 490). Child and Rodrigues (2005), among the first to popularize this idea, for example, stress that in internalizing strategic assets via FDI '*acquisition provides a fast route*' for EM MNEs (p. 392) (emphasis added). Kedia et al. (2012), in a review article that conceptually explores EM MNEs location and entry mode choice, make a similar point: 'EMNEs are often latecomers to the industry in which they compete, forcing them into *accelerated internationalization* with the explicit goal of gaining access to assets, resources, or capabilities not found in their home market (Mathews 2002)' (Kedia et al. 2012. 158). Following from this, it is argued 'EMNEs

[2] Indeed, to our knowledge only Cui and Jiang (2009) have touched upon EM MNE entry mode choice. They do so, however, primarily from the perspective of the choice between joint venture or wholly owned subsidiary.

will try to overcome their latecomer disadvantage through aggressive, proactive and risk-taking *acquisitions*' (Kedia et al. 2012. 159). In contrast to conventional process theory, therefore, which argues a firm's involvement in international markets occurs in stages (from exports, for example, to sales subsidiaries and eventually manufacturing), a commonly held view is that EM MNEs, as latecomers to global competition, 'need to *accelerate* their pace of internationalization so as to catch up with that of incumbents' (Luo & Tung, 2007, p. 490) (emphasis added). When investing in developed countries it is generally argued that EM MNEs 'overwhelmingly look to rapidly catch-up via aggressive acquisitions' (Luo & Tung, 2007, p. 485). These ideas, of course, are considered somewhat radical, as they challenge the widely accepted conceptual frameworks which assume firms should be endowed with some kind of ownership advantages before engaging in foreign internalization activity via FDI.

EM MNEs can and do, of course, also acquire strategic assets from developed markets via greenfield investments. The physical location of a firm, for example, can influence managerial competency via knowledge spillovers (Li et al., 2013). These take place when competencies such as manufacturing practices, R&D ideas, and management techniques are transferred between firms usually in close physical proximity (Jaffe et al., 1993; Branstetter, 2006; Halvorsen, 2010; Giroud & Scott-Kennel, 2009). Knowledge spillovers, which are commonly found, for example, in industrial clusters, are also generally more prevalent in developed markets. While highly competitive firms (i.e. with the best technology, human capital, supply chains and the like) will gain little from joining a cluster and may even suffer as technology and employees spill over to competitors (Shaver & Flyer, 2000; Li et al., 2010), less competitive firms and those lacking ownership advantages (i.e. EM MNEs) may gain by joining a geographic cluster (where innovation tends to thrive). It has been emphasized, however, that 'EMNE specific perspectives suggest that EMNEs differ from traditional MNEs in one key respect: *the accelerated pace of EMNE internationalization*'

(Kedia et al. 2012. 159) (emphasis added).[3] So while EM MNEs could conceivably also use greenfield investments to target strategic assets, current EM MNE thinking generally discounts this possibility as the main way of seeking strategic assets, stressing the relatively slower processes of capturing spillovers from technological clusters makes them comparatively unattractive for firms looking to 'springboard' their way to success (Luo and Tung, 2007). Indeed, greenfield investment strategies are often thought to indicate an organization has decided to take aspects of its tacit and explicit knowledge, corporate culture, and physical property to the host economy, indicating the pre-existence of its own firm specific ownership advantages (Hennart & Park, 1993; Huallacháin & Reid, 1996).

At a conceptual level the choice between acquisition or greenfield entry mode for EM MNEs is undoubtedly of central importance in current theoretical discussion of EM MNEs' FDI strategy (Kedia et al., 2012). If it was to be shown empirically, for example, that strategic asset seeking was more commonly associated with greenfield FDI than acquisition entry mode, it would bring into question some fundamental assumptions and arguments made in much of the EM MNE literature. Similarly, if it was to be shown that there was a greater propensity to use acquisitions rather than greenfield FDI to acquire strategic assets, it would provide support for the growing body of work arguing EM MNEs are indeed strategic asset seekers, which rush to make-up for their lack of firm specific ownership advantages via FDI to developed markets, where such assets are believed to be most abundant.

[3] Sun et al. (2012), for example, who also place entry mode at the centre of their theory of EM MNEs, also note MNEs from China and India exhibit 'a more aggressive global strategy in cross-border M&A's than before' and further that international M&A is the 'primary mode of internationalization' for Chinese and Indian MNEs (p. 5). Similarly, it has also been argued that learning can be achieved through repetition of linkage and leverage (Mathews, 2006) but such learning processes are generally slow. Hence, it is argued, 'EM MNEs often aggressively acquire knowledge through more risk-taking acquisitions instead of traditional partnerships' (Luo & Rui, 2009, p. 52).

Hypothesis 1. EM MNEs have a greater propensity to use acquisitions as opposed to greenfield FDI when acquiring strategic-assets in developed markets.

2.2. Strategic asset seeking and entry mode*:* temporal considerations

Another quite widely held view in the EM MNE literature is that the global financial crisis has facilitated the strategic asset seeking ambitions of EM MNEs (Luo et al. 2010; Yang et al., 2012). The financial crisis created a prolonged downturn in developed markets and a collapse in the valuations of many western based MNEs. This, it is suggested, is 'triggering a new wave of organizational restructuring for western companies which urgently need capital to fund their operations' (Luo et al., 2010, p. 77). This, in turn, 'generates more opportunities than before for EMEs to venture abroad through mergers and acquisitions' (ibid). Further accentuating the increased propensity of EM MNEs to asset seek via acquisitions in the post crisis period, it is argued, was the preferred mode of entry in the *pre-crisis* period, which was greenfield FDI. Historically, it is argued, OFDI by EM MNEs has 'taken the form of greenfield investment for the most part, while developed country MNEs have relied more on M&As' (McAllister and Sauvant, 2013, p. 30). The financial crisis, however, has caused a collapse in valuations of many Western firms and capital availability subsequently became very tight. This, in turn, caused the rapid decline in M&A activity by Western MNEs. The opposite seems to have been true for EM MNES, partly because of their pre-crisis behaviors, which are noted beneath:

> *Emerging market MNEs, especially relatively young firms, have not enjoyed the same access to international capital markets, and they and their OFDI activities consequently suffered less (during the financial crisis). In those instances in which emerging market MNEs do engage in cross-border M&As, they are more likely to pay for them in cash rather than in shares (World Bank, 2011: 83-84), a decision linked to the ownership nature of these firms and the limitations of their domestic capital*

> *markets. Emerging market firms are more likely to be family or state-controlled entities that seek to avoid any dilution of their control and so prefer to pay for acquisitions in cash (ibid., Resende et al., 2010).*
>
> McAllister and Sauvant (2013, p. 30)

The nature of the prudent pre-crisis behavior shown by EM MNEs has put them in a strong position to undertake aggressive acquisitions in the post crisis period, some argue (De Beule & Van Den Bulcke, 2013; Yang, 2012). The systematic shock caused by the onset of the global financial crisis can therefore be seen as a naturally occurring structural break, after which the propensity to engage in aggressive asset seeking acquisitions by EM MNEs should have intensified. To further explore entry mode considerations we therefore consider whether the acquisition entry mode for the purposes of strategic asset seeking has intensified in the post-crisis period.

Hypothesis 2. The propensity of EM MNEs to engage in strategic asset acquisitions in developed markets increased after the global financial crisis.

2.3 Psychic distance, strategic asset seeking and entry mode

A further hypothesis, building from the EM MNE literature, concerns psychic distance, entry mode and their relation to strategic asset seeking considerations. As noted, the aggressive asset augmentation strategies of EM MNEs, it is argued, means the stages/process model of investment is no longer as relevant (Matthews, 2002, 2006; Luo and Tung, 2007). The stages model of development places greater emphasis on learning and networks than strategic asset seeking. Luo and Tung (2007) assert that 'EM MNEs are at present much less path dependent (e.g., ethnic network is no longer the key) and much more risk-taking (e.g. though aggressive acquisitions and mergers) than 'third-world' multinationals in the 1980s' (Luo & Tung, 2007, p. 485). They further argue that EM MNEs, as a result of their aggressive acquisitions, have:

> *a lower dependence on ethnic ties …. With the exception of some niche entrepreneurs who prefer locations with strong ethnic networks, many EM MNEs may not be path dependent on ethnic ties…, to become global players, they have to 'spring- board' faster and be more aggressive in their attempt to leapfrog from their late entrant position.*
>
> (ibid)

A further hypothesis, building from this observation, and our first two hypotheses, can therefore be built around the need of EM MNEs to use existing ethnic networks when undertaking FDI. Not only do acquisitions involve entry into markets with greater psychic distance, they are also likely, when compared to greenfield FDI, to be motivated less by ethnic ties. Greenfield FDI, as noted earlier, is generally thought to indicate an organization has decided to take aspects of its tacit and explicit knowledge, corporate culture, and physical property to the host economy. It therefore already has its own firm specific ownership advantages (Hennart & Park, 1993; Huallacháin & Reid, 1996). The motives for greenfield FDI are therefore considered less likely to be related to asset seeking (i.e. hypothesis 1) and in turn more likely to involve the use of ethnic networks and a stages approach, as such FDI is more likely driven by conventional motives, such as market seeking.

Hypothesis 3. EM MNE acquisitions in developed markets have a lower propensity to be influenced by ethnic ties than greenfield FDI.

2.4 Entry mode and domestic market institutions

Our fourth hypothesis related to EM MNE entry mode preferences relates to the idiosyncratic nature of domestic markets that is often alluded to in the EM MNE literature. It is frequently argued EM MNEs are strongly influenced by their domestic market institutions and this, in turn, is what makes their OFDI strategies different to those of developed market MNEs (Buckley, 2007; Cuervo-Cazurra, 2012; Kedia et al., 2012; Hennart, 2012). Hennart (2012),

for example, thinking along these lines, argues that the location advantages of emerging markets are not equally accessible by all MNEs. He argues assumptions about the 'L' in the 'OLI' model, therefore, should be questioned for the case of EM MNEs. Preferred access by EM MNEs to what are labeled 'complementary local resources', provided by domestic governments, for example, may allow them to benefit from the domestic market rents. This in turn shapes their OFDI strategies, which are to some extent subsidized by this preferential access to local resources (Hennart, 2012).

Extending this line of reasoning, some have argued it is particularly those EM MNEs with closer affiliation to the state (and access to local resources) that are encouraged to internationalize by their home country governments, which have active industrial policies to promote their nascent MNEs (Luo et al., 2010; Wang et al., 2012; Cui & Jiang, 2012; Deng, 2009). These state interventions, moreover, are thought to provide support for strategic asset acquisition (Luo & Tung, 2007; Mathews, 2006). Supportive measures include such things as discounted loans, low expatriate insurance premiums, tax credits, investment information and streamlined application procedures, all of which reduce the real and perceived risks of expanding abroad (Luo et al., 2010; Buckley et al., 2007). According to Cui and Jiang (2012), for example, state owned MNEs bow to home country regulatory and normative pressures, which 'induces isomorphic pressure on firms to follow the practices that have been historically approved by the government' (p. 269). State owned firms are also 'resource dependent on their home country governments, which hinders their ability and willingness to "influence or challenge" home institutions' (Cui & Jiang, 2012, p. 265). Moreover, as they are 'a part of the home-country institutions, SOEs may carry non-commercial objectives driven by the political interests of the state' (Cui & Jiang, 2012, p. 268). This includes channeling 'technological resources' back to the home country (ibid.). Luo and Tung (2007) and others (Lu et al., 2011; Deng, 2009; Wang et al., 2012) echo this view, noting that the

asset seeking behaviors of EM MNEs are supported 'by several critical forces, including: home government support for going global' (Luo & Tung, 2007, p. 491). Some argue in the Chinese case preference is also given to high profile acquisitions and prestige projects, which can build national pride (Morck et al., 2008). A further refinement of this argument takes account of the heterogeneity among different state actors in China, including the government level (Wang et al., 2012). Nonetheless, this viewpoint still argues that strong coercive pressures increase their 'willingness to invest in *developed* countries, where they can innovate and address competitive disadvantages. Such location choices are in line with the central government's aim to access foreign technology, generate spillovers at home and nurture indigenous global champions (Cui & Jiang, 2012; Liu, Wang, & Wei, 2009)' (Wang et al., 2012, p. 663) (emphasis added). More specifically, it is often argued SOEs are embedded and part of the domestic Chinese institutional fabric and owing to their resource dependency upon the state, that they are likely to follow state policy: '*the government attempts to direct outward FDI to acquire foreign technology*' (Cui & Jiang, 2012, p. 268) (emphasis added). For these reasons, in our empirical models we use state ownership as a proxy for greater access to domestic institutional supports.

Hypothesis 4. EM MNEs that are recipients of home country institutional support have a greater propensity to engage in strategic asset acquisitions than those which are not recipients.

3. DATA AND METHODOLOGY

There are now numerous empirical studies exploring the location choice of Chinese OFDI using international panel data (for example, Ramasamy et al. (2012); Duanmu (2012); Kolstad and Wiig (2012) and Buckley et al. (2007)), in total there are now over 20 such studies (see Sutherland and Anderson (2014), for a review of these). None of these, however,

disaggregates their findings by greenfield and acquisition entry mode, making it impossible to use them to explore our current hypotheses. Even if they did, moreover, because these studies use international panel data, there would be serious reservations about the reliability of their findings for commenting on entry mode. This is because, as Slangen and Hennart (2007) point out in their recent critical review of the foreign establishment mode literature, scholars interested in parent, subsidiary or industry-level determinants of an MNE's establishment mode must 'analyze samples of entries by MNE parents from a *single home country* into *a single host country'* (Slangen & Hennart, 2007, p. 424) (emphasis added). This is because the single country research design does not require controls for home and host-country effects, including 'hard-to measure host-country acquisition barriers' (ibid). Indeed, using numerous host countries, they argue, makes controlling for acquisition barriers (i.e. governmental restrictions on acquisitions, for example) 'insuperable' (Hennart & Slangen, 2007, p. 425). Such host country acquisition barriers, moreover, are likely to be important in the case of inward investment from EM MNEs to developed countries, which can be politically sensitive. In the case of Chinese outward FDI, for example, which we focus on in our empirical analysis, such restrictions are likely to be important. Countries exhibit a wide range of reactions, from passive acceptance to vehement opposition, to China's support for its MNEs, particularly state owned ones (Yao et al., 2010). To account for these hard to control for home and host country effects, we therefore focus on one host and one source country (the US and China, respectively). China is a suitable country to use for outward FDI as it is the largest source of emerging market OFDI (UNCTAD, 2012) and its MNEs are often discussed in the context of strategic asset seeking (Deng, 2012).

We selected the US as our host country for three reasons. Firstly, it is the largest developed market in the world and is widely accepted as the most important source of intangible strategic assets. At the beginning of our period of study (2003), for example, the US (with

192) was home to more Fortune Global 500 companies than either Europe (162) or Japan (88) (Fortune, 2004). Likewise, residents of the US have been granted more patents than any other country in the world. The cumulative number of patents granted during our period of study, 2003-2011, in the US (1,577,425), for instance, was more than either Japan (1,507,326) or Europe (1,404,252) (WIPO, 2012). Research and Development expenditures in the US also far outpaced the rest of world with spending of $291.30 billion in 2003 compared to the EU ($210.12 billion) and the Asia-10[4] ($215.98 billion) (National Science Foundation, 2011). Furthermore, by some measures the US has been found to have a larger share of the world's top universities (research and/or teaching intensive) than Europe and Japan combined. In fact, in some years, the US is reported to have over half of world's top 100 universities (Times Higher Education, 2012). In short, it has an abundance of strategic assets, including globally recognized brands, management know how and a wealth of other intangible assets EM MNEs are thought to target while asset seeking.

Secondly, the global financial crisis originated in the US and has had a significant impact on many company valuations. For example, the New York Stock Exchange (NYSE) Composite Index went from levels over 10,000 at several points in 2007 to lows of less than 4,200 in 2009 (NYSE, 2012). It therefore provides a naturally occurring break with which to explore impacts on entry mode and strategic asset seeking behaviors in EM MNEs. Chinese FDI to the US, for example, increased significantly after the global financial crisis. More specifically, the total number of Chinese FDI deals in the US has averaged a nearly 23% year-on-year growth rate from 2003 to 2011 (see Figure 1), but after 2008 it grew at an accelerated over 28%. This post-financial crisis growth trend is further magnified in the case of Chinese acquisition activity which boasted year-on-year growth rates of nearly 35% from 2008-2011 compared with around 19% in the pre-crisis period.

[4] The Asia-10 consist of China, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan and Thailand.

******* FIGURE 1 ABOUT HERE *******

Thirdly, Chinese FDI data in the US is comparatively reliable and detailed. Our dependent variable data, as a result, is able to account for the use of tax havens and offshore financial centers as intermediaries for subsequent FDI into the US. In this way, ultimate beneficiary ownership, as defined by the OECD's most current benchmark definition of FDI, is used (OECD, 2008). This approach has a number of important advantages such as accounting for geographical and volume biases inherent in cross-border investments (Sutherland and Anderson, 2014).

3.1. Dependent and independent variables

Due to hard to control for home and host country effects (Slangen & Hennart, 2007), we use sub-national level data from the United States rather than individual countries as in most previous empirical studies on Chinese outward FDI. The US offers adequate heterogeneity in its state-level economies and good availability of data across state borders. For our dependent variable, we use count data to explore differences in motivations and determinants of Chinese investment in a given state. Count data has been commonly used in past location choice studies (i.e. Zhou et al., 2002; Ramasamy et al., 2012; Coughlin, 2012). By using count data all observations, regardless of the size of the investment, are weighted equally. This has a number of advantages and disadvantages, though theoretically it has been argued by some that this gives a balanced and holistic view of Chinese investments (Ramasamy et al., 2012). We further disaggregate our data set by mode of entry (greenfield and acquisition) and ownership structure (private and state owned). Finally, we also investigate temporal effects on investment propensity by breaking down our data set into pre and post global financial crisis periods.

Our dependent variable data set is based on commercial databases, including Thomson ONE Banker and the Financial Times fDi Markets, the Rhodium Group's China Investment Monitor, contact with state investment offices, and companies' annual reports. As the dependent variable dataset was cross referenced against several data sources, it is subsequently believed to comprise the majority of non-real estate greenfield and acquisition transactions, following the normal 10% ownership threshold for acquisition investment, and minimum values of around $500,000 for greenfield investment. From 2003-2011 there were 333 greenfield deals and 180 acquisition deals giving us a total of 513 deals.

Independent variables included in our balanced panel data set are broken down to represent proxies for strategic asset-seeking, market-seeking, efficiency-seeking, natural resource seeking, cultural proximity and control variables. Independent variables are lagged one calendar year (i.e. levels of unionized employees in 2005, for instance, are estimated against investment levels in 2006). For variables with large standard deviations the natural log was taken (represented by 'L' before the variable abbreviation).

The majority of location choice studies on EM outward FDI use patents to measure SAS. Alon (2010) notes, however, that there is no 'theoretically established variable best suited to capture strategic-asset-seeking FDI' (p. 11). He elects, for example, to use total private and public expenditure on research and development instead of patents. Ramasamy et al. (2012), by contrast, include SAS variables for the ratio of high tech exports to total exports as well as the number of patents registered in the host country. Hurst (2011), on the other hand, use an index of property rights to measure SAS motivations. Other studies (i.e. Kang & Jiang, 2012) have elected not to use patents to proxy SAS due to multicollinearity concerns.

Conceptually, of course, the notion of a strategic asset is rather broad, as reflected in the use of different proxies by different studies. It includes such things as proprietary technology, brand names and managerial competency. Here we attempt to proxy strategic assets by using a broader and arguably more comprehensive measure than that found in earlier studies. We construct and use a three-way linear additive composite index to proxy SAS. It includes: national share (%) of US Fortune 500 companies in a given state (measured by company headquarters); national share (%) of masters of business degrees awarded; and national share (%) of total utility patents registered in the US. This additive composite variable incorporates a diverse set of strategic asset components, providing a holistic measure of the comparative levels of location-specific strategic assets, as well as alleviating possible multicollinearity issues highlighted in other studies (Alon, 2010).

For all of our other explanatory variables we use established proxies (Table 1). Market-seeking variables consist of gross state product (LGSP), reflecting absolute market size (Buckley et al., 2007; Ramasamy et al., 2012; Huang & Wang, 2011; Bobonis & Shatz, 2007; Kolstad & Wiig, 2012; Cheng & Ma, 2007; Alon, 2010; Halvorsen, 2010; Head et al., 1995) and gross state product per capita (LGSPPC), reflecting spending power (OECD, 2012) (Kang & Jiang, 2012; Buckley et al., 2007; Ramasamy et al., 2012; Huang & Wang, 2011; Zhang & Daly, 2011; Duanmu, 2012; Cheng & Ma, 2007). Efficiency-seeking variables include the percentage of unionized employees in a given state (UNION) (Halvorsen, 2010; Friedman et al., 1992; Woodward, 1992; Coughlin et al., 1990; Bobonis & Shatz (2007); Head et al., 1999) and the highest marginal state corporate tax rate (TAX) (Fox, 1996; Woodward, 1992; Coughlin et al., 1990; Bobonis & Shatz, 2007; Head et al., 1999). The former proxies relative operating costs, including, for example, working conditions, and the latter reflects real tax rates paid to the state government over and above that given to the federal government. Following Ramasamy et al. (2012) and Alon (2010) natural resource-

seeking is represented as state natural resource exports by value (LNR). Natural resource endowment is measured as state raw material exports. Following Buckley et al. (2007) and Alon (2010), a dummy variable is used for the cultural proximity (CUL) variable where states with 1% or more of the population equal 1, and 0 otherwise. Seven control variables, following similar approaches to those found in previous studies, are also included: trade intensity, gross state product growth, unemployment, manufacturing density, labor price, geographic size and distance (Table 1).

******* TABLE 1 ABOUT HERE *******

3.2. Model definition

The model estimated is as follows:

$$FDI_{it} = f(\beta_1 SA_{it}, \beta_2 LGSP_{it}, \beta_3 LGSPPC_{it}, \beta_4 UNION_{it}, \beta_5 TAX_{it}, \beta_6 LNR_{it}, \beta_7 CUL_{it}, \beta_8 LIMP_{it}, \beta_9 GSPGROW_{it}, \beta_{10} UNEMPLY_{it}, \beta_{11} MANDEN_{it}, \beta_{12} WAGE_{it}, \beta_{13} LGEOSIZE_{it}, \beta_{14} LDIS_{it})$$

In our balanced panel data set, all 50 states are included for all nine years. We follow the approach of Ramasamy et al. (2012), testing the count data using both Poisson and negative binomial models. One important assumption of the Poisson model is that the variance of N_{it} is the same as the mean (Wooldridge, 2002). If there is unobserved heterogeneity in the data, the Poisson regression will fail (Cameron & Trivedi, 207). As Beneito et al. (2009) note, 'neglecting unobserved heterogeneity leads to over dispersion and excess zeros. In the presence of such over dispersion … standard errors will typically be under-estimated, leading to spuriously high levels of significance' (p. 18). When over dispersion becomes an issue, negative binomial regression can be used (Hilbe, 2011). In the case of the negative binomial model:

$$E[N_{it}]=\lambda_{it} \text{ and } \mathrm{Var}[\, N_{it} \mid x_{it} \,] = \lambda_{it} + \emptyset\lambda^{2-k}$$

where *k* is typically 0 or 1 (Cameron & Trivedi, 2007). As noted in Beneito et al. (2009), when performing negative binomial regressions in Stata, the program used, it is automatically assumed *k*=0 which means we have:

$$\mathrm{Var}[\, N_{it} \mid x_{it} \,] = \lambda_{it} + \emptyset\lambda^{2}$$

as the default case. Which in turn means, 'as $\emptyset \rightarrow 0$, $\mathrm{Var}(n_{it})$ is inflated and thus over-dispersion is addressed; as $\emptyset \rightarrow \infty$, $\mathrm{Var}(n_{it}) \rightarrow \lambda_{it}$ such that it returns to a simple Poisson model if $\emptyset$ is significantly (different) from zero' (Ramasamy et al., 2012, p. 22).

After estimating both Poisson and negative binomial models, the results of likelihood-ratio tests showed the negative binomial models are superior for our data. The existence of significant over dispersion also favored negative binomial over Poisson models. Using Poisson regressions exposed our results to considerable risk of returning spuriously high levels of significance. Indeed, after testing several models, it was found that the Poisson models generally returned a larger number, or otherwise stronger levels, of statistically significant results than negative binomial models. By using the more rigorous negative binomial models our results, it can be inferred, are more robust than those generated using Poisson models.

Model fit tests were calculated and reported for each model. Some past studies using count data have reported the pseudo-R^2 statistic as its goodness of fit test (i.e. Ramasamy et al., 2012). This, however, is not to be confused with the R^2 statistic and cannot be interpreted in the same way. The inherent problem with the pseudo-R^2 statistic is that low values indicate a lack of fit, but high values do not necessarily represent a good fit (Hilbe, 2011). We therefore use information criteria fit tests, in particular the Akaike Information Criterion (AIC) fit statistic. According to Hilbe (2011), AIC 'is now one of the most, if not the most, commonly

used fit statistic displayed in statistical model output' (p. 68). More specifically, we report the Swartz AIC[5]. A smaller AIC signifies a better fitting model (Hilbe, 2011, p. 69). Finally, results from performing the Hausman Test deemed random effects models to be most suitable for our data.

4. RESULTS

We present our results in two tables corresponding to three time periods, the entire period 2003-2011 and pre (2003-2007) and post crisis periods (2008-2011) (Tables 2 & 3). Each table presents the full sample, as well as decomposed samples, including sub-samples by mode of entry (acquisition (MA in the tables) and greenfield (GF), ownership (PO for private, SO for state owned) and entry mode (i.e. private and state-owned MNEs by mode of entry, see tables 2 and 3) as well as the results decomposed by ownership alone. This allows us to fully explore our four hypotheses. We note the signs on the control variables are of the expected signs (Table 1), suggesting internal consistency in our modeling results.

******* TABLES 2 AND 3 ABOUT HERE *******

Regarding *Hypothesis 1*, in the 2003-2011 period the composite strategic asset proxy was not statistically significant for the full sample (Table 1). It was, however, significant for the sub-sample of acquisition (MA) deals (at the 1% level), as well as the private (PO) MA sub-sample (5% level) (Tables 2 and3). On the other hand, the strategic asset variable was not found to be significant in any of the greenfield sub-samples (Table 2,3). An identical pattern of results with regards to systematic differences between acquisition and greenfield mode of entry and the statistical significance of the strategic asset variable was also found for the

[5] Defined as: $\mathrm{AIC}_s = \frac{(-2\mathcal{L}+k*\ln(n))}{n}$ where $\mathcal{L}$ is the model log-likelihood, *k* is the number of predictors including the intercept, and *n* is the number of observations in the model.

2003-2007 (MA and MAPO both at the 1% level; all greenfield investments insignificant) and 2008-2011 periods (MA and MAPO both at the 1% and 5% level respectively; greenfield investments insignificant). Greenfield FDI was in no case found to be statistically significant with regard to the strategic asset variable, which appears consistent with the idea that greenfield FDI has a greater propensity to be undertaken by MNEs with existing ownership advantages and not for strategic asset seeking. We take these results as support for *Hypothesis 1*, that there is a greater propensity for EM MNEs to use acquisitions to acquire strategic assets than greenfield investments.

Our results decomposed by time period (Table 3) show that prior to the financial crisis (2003-2007) for the full sample Chinese FDI was not attracted by strategic asset rich states (but rather by low tax, less unionization, and higher wages in US states) whereas after the crisis strategic assets (as well as market size, unemployment and trade links), were important (Table 3). The composite SAS variable is statistically significant (5% level) for the full sample in the 2008-2011 period alone. We take this as support for *Hypothesis 2*, namely that aggressive strategic asset seeking acquisitions have intensified in the wake of the global financial crisis. Furthermore, it has been argued (stable) host economy economic conditions increase investment propensity (Brouthers, 2002). We also note the impact of state fiscal health (through estimation of GSP growth and unemployment levels) shows Chinese investment is driven to locate in economically *distressed* locations. This behavior intensified in the post-crisis period. These findings are also generally consistent with the idea that aggressive strategic asset seeking is becoming a more important motivation in response to lower priced assets.

Regarding *Hypothesis 3*, in only one case was the ethnic ties variable significant, and this was for greenfield investments (2003-2007 period, and only for private greenfield investment). It

was insignificant for all other sub-samples and time periods. This indicates that while network ties may have once been relevant, these have become less so. It is also in keeping with the view that EM MNEs, particularly those engaging in strategic asset related acquisitions, undertake FDI to psychically distant countries without recourse to stages type investment processes (Johanson and Vahlne, 1977).

Finally, regarding *Hypothesis 4*, we used state ownership as a proxy for home market institutional support for EM MNEs, so capturing an important factor which is believed to lead to the idiosyncratic investment behavior of EM MNEs. Interestingly, we find that acquisitions orchestrated by Chinese state-owned MNEs were statistically insignificant for the composite strategic asset seeking variable in all included periods. We therefore reject *Hypothesis 4*, that asset seeking was more prevalent among EM MNEs with domestic institutional support.[6] This stands somewhat at odds with a dominant view in the EM MNE literature, that the state successfully supports strategic asset seeking acquisitions (Luo et al, 2010).

5. DISCUSSION

5.1. Entry mode, strategic-asset-seeking and accelerated internationalization in EM MNEs

Kedia et al. (2012) in summarizing the burgeoning EM MNE literature, argue that: 'EMNE specific perspectives suggest that EMNEs differ from traditional MNEs in one key respect: *the accelerated pace of EMNE internationalization*, in order to develop and/or acquire the capabilities necessary to compete on a global level' (Kedia et al. 2012. 159) (emphasis added). Indeed, despite lacking systematic empirical evidence comparing motives for greenfield and acquisition entry modes in EM MNEs, the view that they have a greater

[6] Rather, such FDI appeared most strongly driven by market size (LGSP) (between 2003-2011).

propensity to use aggressive *acquisitions*, as opposed to greenfield FDI, to buy strategic assets from psychically distant developed markets, has already become quite widely accepted (Luo & Tung, 2007; Sun et al., 2012; Alon et al., 2011). Luo and Tung (2007), in their widely cited springboard argument, argue EM MNEs 'seek sophisticated technology or advanced manufacturing know-how by *acquiring* foreign companies or their subunits that possess such proprietary technology' (ibid)(emphasis added) (Luo & Tung, 2007, p. 485). At a conceptual level, this view has also been strongly associated with calls for new theoretical understandings of EM MNE expansion, as the belief is that the OLI paradigm does not explain acquisition related strategic asset seeking behavior very well (Kedia et al. 2012). Hence the question of whether acquisitions have a greater propensity to target strategic assets, whether greenfield investments do not, and whether they also rely upon existing ethnic networks, or a stages model to investment, are all important empirical questions in this growing area of research.

Our results, as far as we aware, are the first to show that the motivations for EM MNE acquisitions do indeed appear to systematically differ from those of greenfield investment projects and in doing so they accord with some of the main theoretical predictions of the growing EM MNE literature. Our sample of Chinese MNEs investing in the US shows they did have a greater propensity to use acquisitions, rather than greenfield FDI, when targeting strategic assets. Greenfield investments had a lower *propensity* to target strategic assets and showed more indications of being motivated by other factors. Greenfield investment strategies, it is generally believed, indicates organizations have decided to take aspects of their tacit and explicit knowledge, corporate culture, and physical property to a host economy (Hennart & Park, 1993; Huallacháin & Reid, 1996). Our results do also support this idea, as they show that greenfield location decisions between states were primarily driven by market seeking and efficiency (cost) considerations (i.e. TAX and UNION are significant at 10%

level). Market size, for example, appears to be one of the most important determinants of greenfield location choice (LGSP is significant at 1% for GF in entire period). Our findings, in this regard, are also consistent with some previous studies investigating the location choice of FDI within the US for MNEs from other countries, as well as those looking at EM MNE outward FDI, which have found market seeking also to be important (Brown et al., 2009; Coughlin & Segev, 2000; Friedman et al., 1992; Alon, 2010; Duanmu, 2012; Kolstad & Wiig, 2012; Ramasamy et al., 2012; Buckley et al., 2007; Cheng & Ma, 2007). We therefore interpret our results to show that a more important factor motivating greenfield FDI was market seeking, involving strategies that looked to exploit previously acquired competitive advantages (Dikova & Brouthers, 2009). This interpretation is also consistent with a more recent strand of research which argues that some EM MNEs do indeed possess some firm specific ownership advantages, albeit ones which are far less obvious than those found in developed market MNEs. These include, for example, their capabilities in process innovation and low cost production (Ramamurti, 2012).

Some may argue that our findings showing a greater propensity for strategic asset seeking in acquisitions than greenfield FDI are hardly surprising, as they are generally in line with predictions of transaction cost/internalization approaches to understanding MNE entry mode, as well as the EM MNE literature, including contributions such as Matthews (2002, 2006) LLL framework and Luo and Tung's (2007) 'Springboard Perspective'. Nonetheless, while there is some truth in this, it is worth again stressing the central relevance of entry mode in the EM MNE literature, as well as the current lack of rigorous and systematic *empirical* investigation of the reasons for the use of different entry modes. This lacuna exists, at least in part, because most studies to date have used international panel data, which are not suitable for drawing conclusions with regards to motivations for different entry mode because of hard to control for host country acquisition barriers (Slangen & Hennart, 2007). Others have relied

upon anecdotal evidence, such as the observed upturn in EM MNE M&A activity, without formally exploring the motivations between different entry modes and whether they are actually different (Sun et al. 2012). Our study is a first attempt to probe these entry mode questions in more detail.[7]

5.2 Entry mode, strategic-asset-seeking and the global financial crisis

The global financial crisis presents an important structural break, one that also lends itself to exploring the question of the use of different entry modes by EM MNEs, including asset seeking behaviors via acquisitions. To our knowledge there has also been relatively little empirical research on the impact of the global financial crisis on EM MNEs, despite the fact it has been a 'game changing' event for many EM MNEs looking to rapidly catch-up with the developed market counterparts (Nolan, 2012; Yang and Stoltenberg, 2012). Indeed, much of the recent research on EM MNEs has largely avoided discussion of how the global financial crisis may have impacted EM MNEs and their FDI (Wang et al., 2012; Ramaswamy et al. 2012; Cui and Jiang, 2012).

In our view, the crisis has greatly weakened the hand of developed market MNEs, but strengthened that of EM MNEs. Yang and Stoltenberg (2012), for example, in one of the few studies to consider the impact of the crisis, argue that there are important links to Chinese post-crisis policy changes and the propensity to engage in SAS behavior. They note that Chinese multinationals are now 'leveraging the financial resources accumulated over the last 30 years, by taking advantage of the cheap assets made available globally by the recent financial crisis (p. 1). Our results, in line with observations made in a minority of the EM

[7] By doing so, we also contribute to the dedicated literature on foreign establishment mode. As noted, of the 23 empirical studies comparing the motivations for greenfield and acquisition entry mode that Hennart & Slangen (2007) have recently identified, none looked at what could be considered emerging market MNEs.

MNE literature that considers the crisis (i.e. Luo et al. 2010; Yang and Stoltenberg, 2012), show that aggressive strategic acquisitions did increase in the aftermath of the crisis. Although our empirical models do not allow us to identify specifically why this is so, a number of factors may play a part. The crisis has undoubtedly led to a significant reshaping of the global economy. The asymmetric shock of the financial crisis has weakened US and European domestic demand, making these economies less attractive for market seeking, while simultaneously significantly eroding the valuations of Western MNEs, leading to a discount on the price of the strategic assets they own. The credit systems in countries such as China are now also considerably stronger, in comparison to their Western counterparts, than they were only several years ago (Yao et al., 2010). Our results show the game changing nature of the global financial crisis have also led to increased 'springboard' type behaviors, as the propensity for strategic asset seeking acquisitions increased in the wake of the crisis. These results, we believe, are strongly consistent with the theoretical literature on EM MNEs arguing that acquisitions are the dominant entry mode for strategic asset seeking in EM MNEs (Matthews, 2002, 2006; Luo and Tung, 2007; Child and Rodrigues, 2005; Kedia et al. 2012).

5.3 Entry mode, strategic-asset-seeking and domestic institutional idiosyncrasies

A further strong strand of theorizing we noted argues EM MNE FDI strategies are 'idiosyncratic' owing to their domestic institutional environment (Kedia, 2012), including such things as domestic capital market imperfections (Buckley et al. 2007). An extension of this line of reasoning, which is particularly prominent in the literature on Chinese MNEs, is that they are aided by the state to acquire strategic assets (Luo & Tung, 2007; Luo et al. 2010). We find the opposite, however, in that state-owned Chinese MNEs have a lesser propensity to strategic asset seek. Why are state owned MNEs, according to our findings, not so successful in acquiring strategic assets in the US via acquisitions? One plausible and likely

explanation is that SOEs meet greater hurdles in their investment decisions in the US. As Cui and Jiang (2012) point out, 'The political image associated with state ownership in Chinese investing firms can stimulate politically sensitive and public concerns in host countries, and provoke negative reactions from politicians and the public in the host countries.' (p. 270). This can lead to acquisitions being blocked. Wang et al. (2012) have also commented more specifically upon the significance of state ownership and Chinese investments in the US: 'the acquisition of many US firms by Chinese SOEs failed as a result of concerns of national-level US politicians that this might be motivated by non-commercial objectives, and might lead to unfair competition' (p. 663). Greater cultural distance and ethnocentricity of EM MNEs also 'contribute to high host-country normative pressures on foreign firms' (Cui & Jiang, 2012, p. 267). This may lead them, according Cui and Jiang (2012), to avoid high profile acquisitions which are likely to be politically disruptive. There are, of course, numerous examples of failed acquisitions in the US by Chinese MNEs. Recent high-profile examples include the failed bid by China National Offshore Oil Corporation (CNOOC), a Chinese SOE, for Union Oil Company of California (Unocal) in 2005 and the 2009 forced withdrawal of the proposed purchase of a 51% stake of Firstgold, a company based in Nevada, by Northwest Nonferrous International Investment Company, a Chinese SOE. Recent federal government activity has done little to change the perceptions of a hostile investment environment in the US for Chinese SOEs.

An alternative explanation for the lack of asset-seeking acquisitions by state-owned MNEs is that the extent of state support measures and industrial policy to encourage such activities has been considerably overstated. Indeed, some argue considerable myth, hype and fear has surrounded claims that China is 'buying the world', so leading to inaccurate, over exaggerated claims of Chinese state involvement (Nolan, 2012). There is also, some further argue, actually very limited empirical evidence to support the idea that China has a

sophisticated industrial policy to support state-owned MNEs in acquiring strategic assets. Thus the only empirical study of its type, to the best of our knowledge, has recently shown that most outward M&A activity from China does not in fact follow government guidelines, either in terms of industries or countries targeted: 'Overall, there is no general trend apparent in the compliance of Chinese outward M&A with the government recommendations' (Meuer et al., 2012, p. 18). Meuer et al. (2012) go on to argue that: 'The claim that China's internationalization is primarily orchestrated by its government is not supported' (p. 24). Their findings also strongly reject the idea that state-owned enterprises are 'instruments of the government' (Meuer et al., 2012, p. 26). In other words, while many think that the Chinese domestic institutions are idiosyncratic and supportive of strategic asset seeking acquisitions, they actually may not be.

As Cui and Jiang (2012) note, however, there is currently 'a lack of understanding of the role of state ownership in the internationalization of Chinese firms, despite the fact that it can be an important parameter in explaining the deviation of Chinese firms' FDI strategies from existing theoretical predictions' (p. 280). And our findings suggest the jury is still out on exactly why Chinese SOEs are less successful at acquiring strategic assets in the US case. We suspect, however, that it may well be a combination of the two. That is, the role of state policy to encourage strategic asset seeking has been overstated, and the role of US policy in blocking strategic asset related deals underestimated. In any case, further detailed and systematic study of the impact of ownership considerations on EM MNE' FDI is certainly warranted.

6. CONCLUSION

Much of the conceptual and empirical literature on EM MNE international expansion concerns the question of whether EM MNEs use acquisitions to rapidly acquire strategic

assets so they can catch-up with their developed market counterparts (Sun et al., 2012; Kedia et al., 2012; Yiu et al., 2007). Entry mode considerations, therefore, are important. To date, however, there have been no empirical studies exploring whether systematic differences in the propensity to use of greenfield or acquisition entry modes exist. More specifically, no studies have explored whether there is a greater propensity to use the latter for acquiring strategic assets, despite this being an important prediction of the conceptual literature on EM MNEs. Our findings on entry mode are the first to systematically confirm that EM MNEs do have a greater propensity to use acquisitions for acquiring strategic assets in developed markets. We believe this adds a further piece to the jigsaw of our understanding of the nature EM MNEs. It also, in turn, casts further light on the bigger question of whether the OLI paradigm is suitable for explaining EM MNE FDI strategies. On balance, our empirical findings are broadly supportive of the idea that EM MNEs do indeed have a stronger propensity to seek strategic assets via explorative acquisitions to acquire the brands, technologies, management know how and intangible assets that they themselves lack. They are therefore also supportive of the idea that EM MNEs actively seek the firm-specific advantages that will allow them to succeed as latecomers in global markets (Kedia, 2012).

Our study, as well as exploring the use of different entry modes by EM MNs, has also focused on two large markets of crucial geopolitical importance in both pre and post global financial crisis periods. Accordingly, it would be remiss not to comment on the policy ramifications. It is of note, in particular, that we did not find any greater propensity for strategic asset seeking acquisitions by Chinese state-owned MNEs in the US. This, we believe, suggests that the US national policy has achieved some of its main objectives, which favors private sector engagement. Scaremongering about Chinese state-owned MNEs actively acquiring US strategic assets may, therefore, be over exaggerated. From a Chinese perspective, the strong involvement of private sector MNEs undertaking strategic asset

seeking strategies in the US would also appear encouraging, suggesting an underlying dynamism in their private sector MNEs, as they strive for firm-level catch-up in the wake of the global financial crisis. There is no reason why, in the longer run, this trend cannot benefit both economies, in a similar way to that of Japanese investments in the US.

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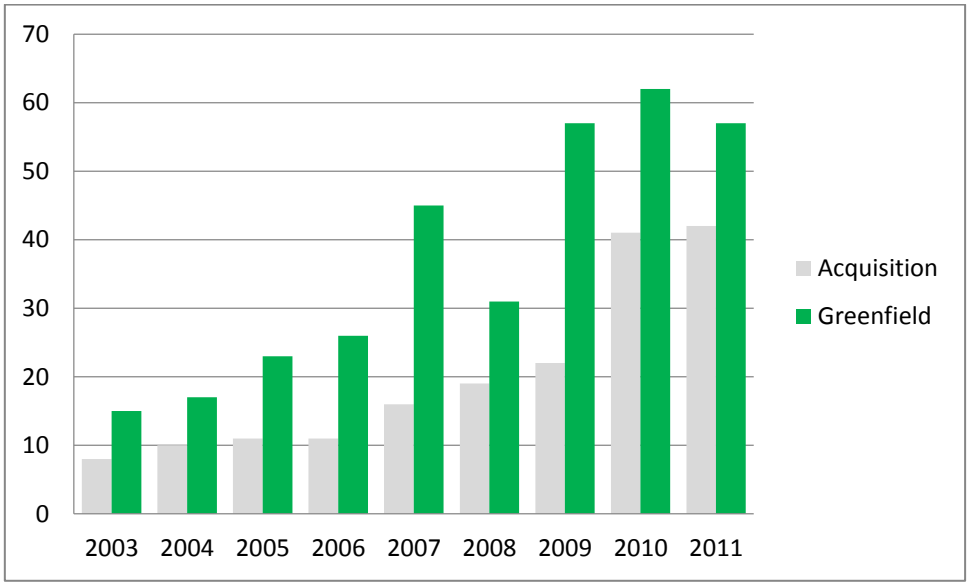
Figure 1: Number of Chinese investment deals in the United States from 2003-2011



Source: Thomson ONE and FT fDi Markets

Table 1: Variables, descriptions, expected signs, data sources and justifications

Variable	Variable Abbreviation	Proxy	Data Source
Chinese FDI in US	FDI	Frequency count of Chinese FDI projects in the host state	Thomson ONE; FT fDi Markets Database; Rhodium Group; Annual Reports; Company Websites; State Government Offices
Strategic Assets	SA	Three-way Linear Additive Composite of 1) state share of US (National) Fortune 500 companies; 2) state share of Masters of Business Degrees Awarded; 3) state share of national Utility Patents Registered	Fortune Magazine and Company Websites; National Center of Education Statistics - Digest of Education Statistics; National Science Foundation – Science and Engineering State Profiles
Market size	LGSP	Gross State Product	US Department of Commerce – Bureau of Economic Analysis
Purchasing Power	LGSPPC	Gross State Product Per Capita	US Department of Commerce – Bureau of Economic Analysis
Unions	UNION	Percentage of Employees Represented by a Union	US Department of Labor – Bureau of Labor Statistics
Taxation	TAX	State Corporate Tax Rate (highest marginal tax rate)	Tax Foundation; Each state's tax forms and instructions; Commerce Clearing House; Federation of Tax Administrators
Natural Resources	LNR	Raw material exports - HTS codes for chapters 25, 26, and 27 (earths and stones, ores, and fuels)	US Bureau of the Census – Foreign Trade

Cultural Proximity	CUL	Dummy Variable Where 1 Equals Host State Ethnic Chinese Population is More Than 1% of Total State Population, 0 Otherwise	US Bureau of the Census – Population Estimates
Trade Intensity	LIMP	State Exports to China	US Bureau of the Census – Foreign Trade
GSP Growth	GSPGROW	Year-on-Year Growth Rate	US Department of Commerce – Bureau of Economic Analysis
Unemployment	UNEMPLY	Percentage of the population which is unemployed	US Department of Labor – Bureau of Labor Statistics
Manufacturing Density	MANDEN	Manufacturing Employment Per Square Mile of State Land Excluding Federal Land	US Bureau of the Census – Annual Survey of Manufactures
Labor **Price**	WAGE	Mean hourly wage of all occupations	US Department of Labor – Bureau of Labor Statistics
Geographic **Size**	GEOSIZE	Geographic Size (Scaled Square Miles) of State Land Excluding Federal Land	US Bureau of the Census - Geography
Distance	LDIS	Geographic distance from Beijing to the capital of the host state	www.geobytes.com

Table 2: Negative Binomial Model Results for time period 2003-2011

2003-2011	Full sample	Greenfield	Acquisition	Private Owned	State Owned	Greenfield Private Owned	Greenfield State Owned	Acquisition Private Owned	Acquisition State Owned
SA	1.735	-4.697	5.589 ***	2.011	2.306	-3.394	-3.651	5.986 **	5.077
	(2.323)	(3.777)	(1.726)	(2.845)	(2.980)	(4.656)	(4.504)	(2.654)	(3.620)
LGSP	1.477 **	3.606 ***	.447	1.868 **	.748	3.821 **	3.066 *	.980	-.799
	(.704)	(1.310)	(.657)	(.856)	(.969)	(1.571)	(1.601)	(.829)	(1.284)
LGSPPC	3.651	-4.252	7.279 ***	3.888	3.254	-.101	-10.084 *	5.044 *	11.303 **
	(2.241)	(3.876)	(2.333)	(2.661)	(3.414)	(4.419)	(5.880)	(2.903)	(4.577)
UNION	-.042	-.059	-.0190	-.056 *	.003	-.078 *	.007	-.025	.037
	(.027)	(.0366)	(.021)	.032	(.035)	(.045)	(.041)	(.032)	(.050)
TAX	-4.067 *	-4.262	-4.453	-5.316 **	-2.720	-4.871	-2.330	-6.092 *	-4.936
	(2.196)	(2.815)	(2.996)	(2.465)	(4.140)	(3.293)	(5.043)	(3.479)	(7.287)
LNR	.1410	.137	.247	.226	.006	.102	.049	.329	-.172
	(.179)	(.262)	(.186)	(.213)	(.258)	(.311)	(.331)	(.227)	(.429)
CUL	.155	.6845	-.336	.173	-.087	.831	-.078	-.499	-.172
	(.361)	(.488)	(.311)	(.413)	(.493)	(.562)	(.603)	(.414)	(.724)
LIMP	.553 *	.6437	.205	.371	.865 *	.528	.936	.020	.810
	(.327)	(.484)	(.299)	(.374)	(.511)	(.563)	(.678)	(.370)	(.665)
GSPGROW	-.0241	-.017	-.031	-.001	-.068 **	-.007	-.040	.007	-.101 **
	(.0166)	(.021)	(.025)	(.0201)	(.028)	(.026)	(.0357)	(.031)	(.045)
UNEMPLY	.0439	-.011	.120 **	.040	.064	.026	-.072	.089	.197 *
	(.035)	(.046)	(.049)	(.040)	(.062)	(.055)	(.080)	(.057)	(.113)
MANDEN	-.001	.0203	-.018	-.006	-.001	.005	.023	-.019	-.030
	(.0150)	(.0212)	(.011)	(.018)	(.019)	(.025)	(.024)	(.016)	(.028)
WAGE	.109	.176 *	.049	.125	.064	.122	.265 *	.106	-.035
	(.068)	(.098)	(.075)	(.081)	(.105)	(.117)	(.144)	(.098)	(.167)
GEOSIZE	.109	.176 *	.049	.125	.064	.122	.265 *	.106	-.035
	(.068)	(.0982)	(.075)	(.081)	(.105)	(.117)	(.144)	(.098)	(.167)
LDIS	-1.670	-2.570	-3.169	-4.037	7.216	-3.386	2.312	-7.669	19.019 *
	(5.669)	(8.663)	(4.112)	(6.659)	(7.510)	(9.939)	(9.425)	(5.7329)	(10.058)
CONSTANT	-21.880	16.398	-26.349	-4.616	-44.008	1.381	20.726	11.752	-130.841 ***
	(24.651)	(39.659)	(17.847)	(438.923)	(748.308)	(772.628)	(626.463)	(24.707)	(43.031)
LLH	-422.580	-306.424	-269.178	-358.453	-215.178	-249.099	-169.990	-233.751	-94.672
Swartz AIC	1.966	1.450	1.284	1.681	1.044	1.195	0.843	1.127	0.509

Coefficient reported with standard error in parentheses. LLH = Log Likelihood. AIC = Akaike Information Criterion (lower values indicate a better fitting model). Asterisks ***, **, * denote 1%, 5% and 10% significance levels, respectively.

Table 3: Negative Binomial Model Results for time periods 2003-2007 and 2008-2011

	Variable	Full sample	Greenfield	Acquisition	Private Owned	State Owned	Greenfield Private Owned	Greenfield State Owned	Acquisition Private Owned	Acquisition State Owned
'03-'07 Pre-Crisis	SA	1.080	-5.183	13.729 ***	6.724	1.102	2.490	-12.522	14.863 ***	12.153
	LGSP	1.882	3.591 *	.305	1.256	2.191	1.951	7.871 **	1.002	-2.800
	LGSPPC	4.143	-6.196	10.728 ***	2.612	10.295 *	-6.195	-2.876	7.583	21.995 ***
	UNION	-.102 **	-.131 ***	-.021	-.131 **	-.049	-.190 ***	-.073	-.009	-.027
	TAX	-15.692 **	-9.001	-25.605 ***	-24.627 ***	2.578	-19.911 *	10.452	-28.221	-13.383
	LNR	-.089	-.010	-.029	.116	.046	.190	.170	.128	-.531
	CUL	.340	.893	-.628	.468	.152	1.380 *	-.271	-1.228	1.484
	LIMP	.400	.304	.467	.618	-.189	.650	-1.042	.316	.879
	GSPGROW	-.083	-.033	-.064	-.021	-.189 **	.030	-.164	-.017	-.172
	UNEMPLY	.052	.192	-.068	-.046	.397	.207	.315	-.331	1.241 **
	MANDEN	.004	-.006	.012	.004	-.021	-.007	-.018	.022	-.013
	WAGE	.299 *	.587 ***	-.191	.222	.082	.541 **	.472	-.197	-.237
	GEOSIZE	.011	.054	-.014 **	-.115	.023	-.073	.064	-.194 **	.003
	LDIS	.034	2.073	-1.812	-2.251	8.660	3.496	-9.290	-11.828	38.592 **
	CONSTANT	-32.224	7.163	-35.400	-2.334	-88.185	2.858	13.671	17.867	-240.743 **
	LLH	-189.225	-140.975	-105.318	-159.0493	-86.157	-114.609	-67.917	-86.913	-31.116
	Swartz AIC	0.929	0.929	0.556	0.795	0.471	0.597	0.390	0.474	0.226
'08-'11 Post-Crisis	SA	3.673 **	.809	4.722 **	3.305 *	2.996	-.505	4.139	5.242 **	5.704
	LGSP	1.291 **	2.331 *	.443	2.219 ***	-.345	3.574 **	.230	1.184	-1.952
	LGSPPC	3.713	-3.201	6.476 **	5.603 **	-4.781	3.469	-18.497 ***	5.614	4.003
	UNION	-.017	-.006	-.027	-.024	.006	-.004	$-3.69e^{-4}$	-.037	.0118
	TAX	-3.270	-3.849	-1.927	-3.872	-2.250	-3.187	-5.180	-3.359	-5.268
	LNR	.207	.038	.330	.218	.203	-.032	.244	.330	.514
	CUL	-.163	.181	-.228	-.034	-.606	.242	-.566	.043	-1.456
	LIMP	.450 *	1.192 **	.205	.126	1.474 **	.533	2.720 ***	-.036	.988
	GSPGROW	-.028	-.030	-.0310	-.002	-.082 **	-.017	-.058	.011	-.128 **
	UNEMPLY	.093 **	.021	.109 **	.139 ***	-.050	.121 *	-.225 **	.126 **	.065
	MANDEN	-.008	.011	-.030 *	$-2.26e^{-4}$	-.023	.007	.006	-.018	-.100 **
	WAGE	.037	.089	.080	-.101	.458 ***	-.094	.645 ***	-.027	.556 **
	GEOSIZE	-.058 ***	-.045	-.064 **	-.077 ***	-.019	-.043	-.087	-.102 **	-.034
	LDIS	-1.625	2.413	-4.530	-7.257 *	11.851 *	-2.057	17.383 **	-9.293	15.054
	CONSTANT	-21.120	-5.596	-17.338	-5.170	-45.821	-13.107	-17.699	4.852	-86.284
	LLH	-230.274	-165.384	-156.710	-193.529	-119.776	-131.292	-92.048	-139.208	-53.136
	Swartz AIC	1.111	0.8234	0.784	0.948	0.620	0.671	0.497	0.707	0.324

Coefficient reported. LLH = Log Likelihood. AIC = Akaike Information Criterion (lower values indicate a better fitting model). Asterisks ***, **, * denote 1%, 5% and 10% significance levels, respectively.